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FIG. 3

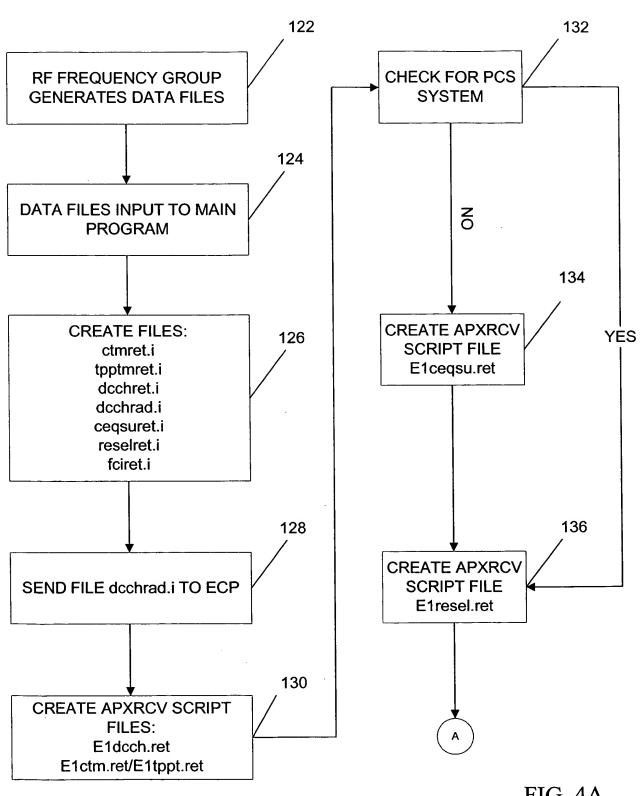
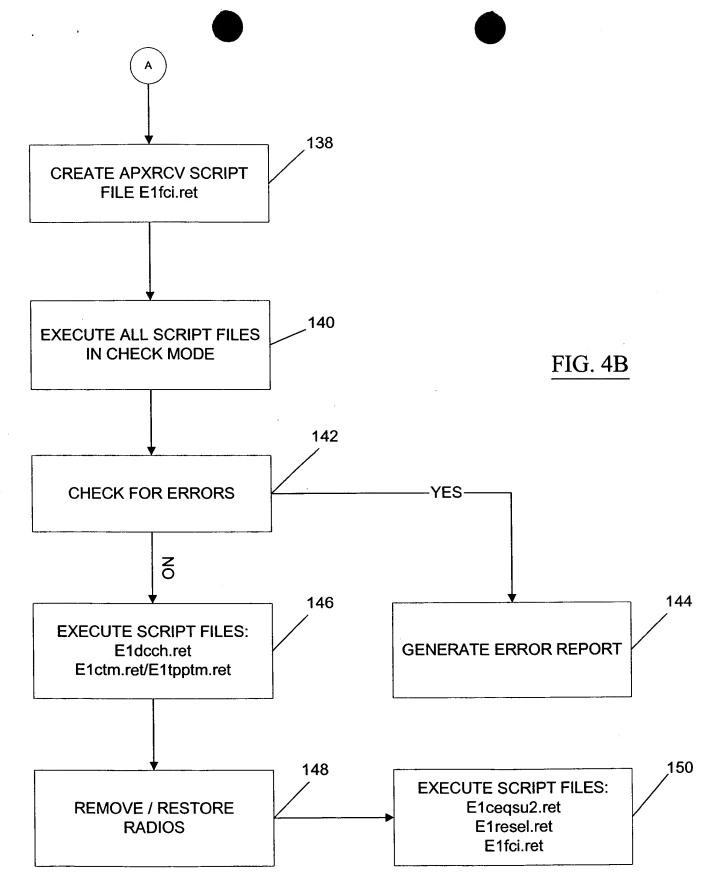


FIG. 4A



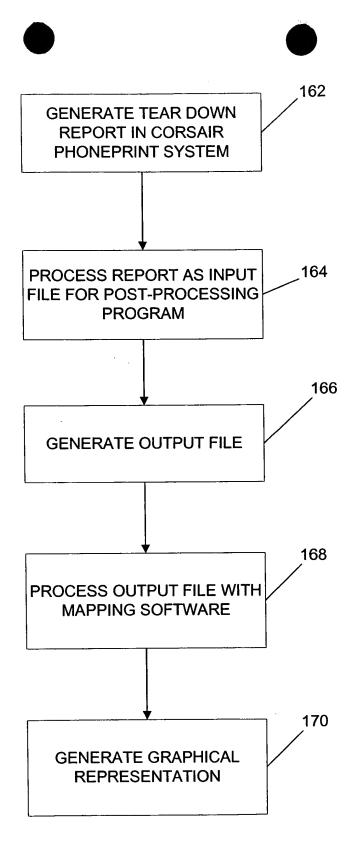
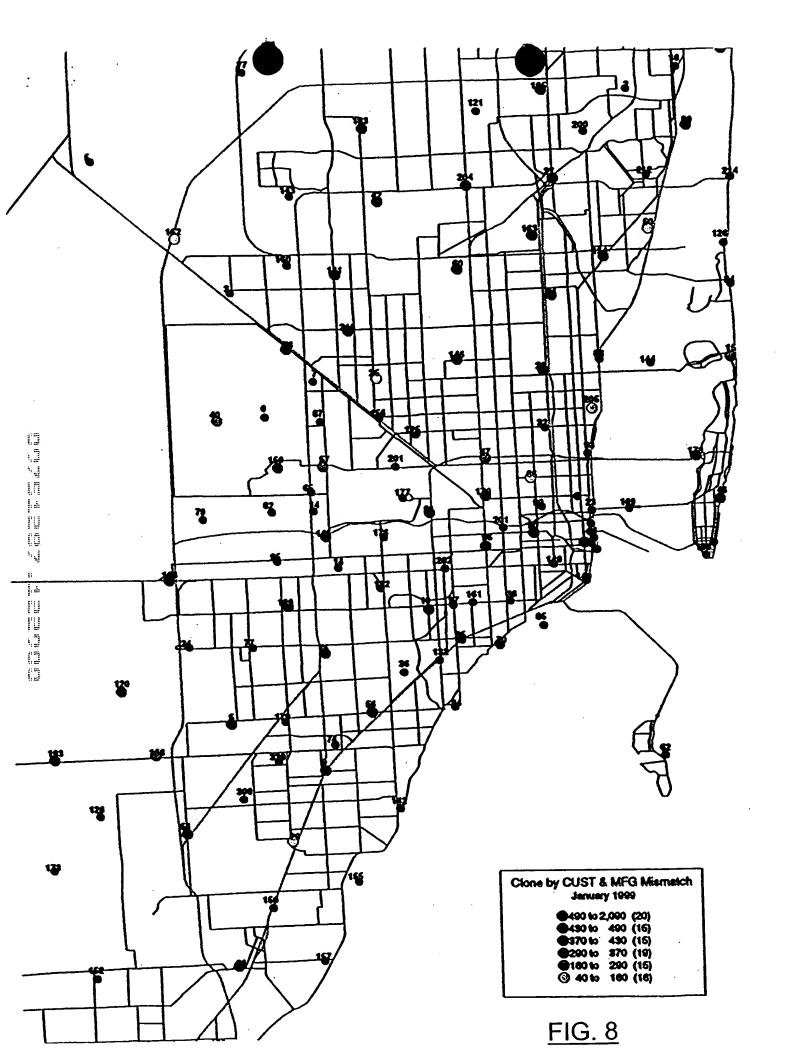
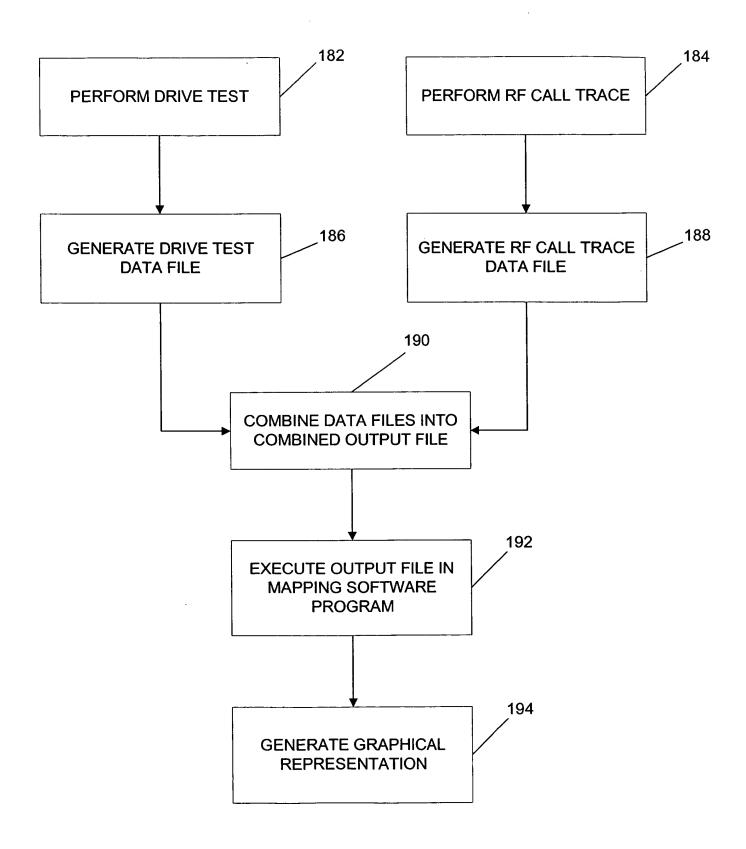


FIG. 5

>pg pp9912.tx	c t			_	
Date Time(2) Site_ID MIN(1)	Dialed		own_Reason	MCC
12/25/99	19.26.09	20	2012075854	12014981322	MFG
12/23/99	14,56,20	219	2012075854	5617767114	MFG
12/26/99	21:40:32	167	2012130072	19547814445	MFG
12/23/99	19.06.49	82	5015134416	9544289147	MFG
12/23/99	19:06:23	82	5015134416	9544289147	MFG
12/25/99	17,23,55	82	5015134416	9544285083	MFG
12/25/99	15,06,20	82	5015134416	2015680907	MFG
12/25/99	13,04,16	82	5015134416	2015680907	MFG
12/25/99	13,04,05	82	5015134416	2015680907	MFG
12/25/99	13.03:53	8 2	2012134416	2015680907	MFG
12/25/99	13,03,31	82	2012134416	2015680907	MFG
12/25/99	13,01,49	82	5015134416	2015680907	MFG
12/25/99	12,53,38	82	5015134416	2015680907	MFG
12/25/99	12,52,32	82	5015134416	2015680907	MFG
12/25/99	12,52,03	82	5015134416	2015680907	MFG
12/25/99	12,50,48	82	5015134416	2015680907	MFG
12/25/99	12,48,15	82	2012134416	2015680907	MFG
12/25/99	12,47,16	82	2012134416	5680907 MFG	
12/24/99	11.58.50	82	5015134416	8003328463	MFG
12/24/99	11.58.08	82	5015134416	8003328463	MFG
12/24/99	10:03:16	82	.2012134416	9544289147	MFG
12/22/99	14:58:09	80	2012300764	19546467166	MFG
12/29/99	10,54,28	177	2012400657	19086881800	MFG
12/29/99	10:51:49	177	2012400657	9412503698	MFG
12/29/99	10:25:04	145	20 <u>.</u> 12400657	12012400657	MFG
12/29/99	10.24.42	145	2012400657	12012400657	MFG
12/27/99	10.65.15	49	. 5015416552	15616551115	MFG
12/24/99	19:22:48	219	2012476225	15615551212	MFG
12/24/99	19:22:26	219	2012476225	15615551212	MFG
12/24/99	19:22:06	219	2012476225	15615551212	MFG
12/24/99	19:13:38	219	2012476225	5617950022	MFG
12/27/99	12:01:06	20	2012476225	15614996976	MFG
12/23/99	16:23:47	12	5015640686	3105152822	MFG
12/23/99	16:17:19	12	2012640686	3105152822	MFG
12/23/99	16:17:03	12	5015640686	3105152822	MFG
12,20,00	••••				

>pg map 1299 ECP, Ce'l INo, Longi tude, Latitude, Count 4,1,-80,1675,26,155278,148 3,5,-80,361111,25,699444,209 1,6,-80,171667,26,36,675 1,7,-80.114167,26.562778,173 1,8,-80,109722,26,760556,76 3,9,-80.317222,25.679444,311 3,10,-80,266667,25,747222,115 4,12,-80,29,26,183333,268 3,13,-80,422778,25,526111,164 4,15,-80,123056,25,854167,510 4,16,-80.198611,26.248889,401 1,18,-80,088889,26,45,380 1,20,-80.058611,26.651944,216 4,22,-80.210833,25.848611,138 4,23,-80,128889,26,085833,844 4,25,-80,288889,25,845556,55 1,26,-80,201111,26,630833,251 4,27,-80,204722,25,93,590 3,28,-80,360833,25,596667,255 3,29,-80.333889,25,649444,584 4,30,-80,415,26,086389,207 4,31,-80,175833,26,121944,128 1,37,-80,681389,26,686667,213 4,40,-80,364444,25,828333,156 4,42,-80,286944,25,920556,147 4,43,-80,168056,26,024722,333 3,46,-80,129167,25,793611,2694 3,47,-80.238611,25.811389,121 1,49,-80.051667,26.711944,381 4,50,-80,160556,25,908611,187 4,52,-80,26,26,121667,456 4,53,-80,105556,26,136389,501 3,54,-80,383333,25,653056,81 4,55,-80,249444,26,268333,314 3,56,-80,294722,25,703889,184 3,57,-80,315,25,808333,21 3,58,-80,265278,25,788333,267 4,60,-80,25,25,891667,205 4,61,-80.090833,26.230278,147 4.64.-80.211667,26.0175,595





N. E.

FIG. 9

SAMPLE Ericsson log

MOBILE TELEPHONY CELL TRAFFIC RECORDING DIGITAL SIGNAL STRENGTH MEASUREMENTS

MSNB	CELL	DE	:V :VC-106		SSFVC 23	SSRVC 20	
9412580	201 T0170	, 811	/VC-100				
SSSTDRV	c	BERFVC	BERRY	/ C	RBERRVC	FERRVC	
6 .		3	2		2	0	
BQRVC	TORVC	FRE	PERR	•	TIMEALIGN	1	MSPOW
15	0	1			0 .		2
NCELL	NSSFFMC	MEAS	CHAN	VIN	D		
T017A	5	1260		Y			
T017B	23	1272		Y			
T006B	17	1300		Y			
T016B	13	1305		Y			
T004A	29	1251		Y			
T005B	33	1302		Y			•
T005A	23	1290		Y			
T018A	21	1294		Y			
T154B	21	1303		Y			
TIME	PRIN	TIND		FCOI	DE		
11:08:	27 0						

CCDIM

END

MOBILE TELEPHONY CELL TRAFFIC RECORDING CANDIDATE LIST FOR

HANDOFF

MSNB	CELL	TIME	FCODE	URGENCY
9412580201	T017C	11:08:27		0
CANDCELL	CELLTYPE		ntype	RATING
T005B	0		std	0

END

XTEL LOG FILE

DATE, TIME, LONGITUDE, LATITUDE, ALT, SPEED, HEADING, GPS_MODE, PHONE_TASK, TASK _DESC,CHAN,RSSI,MODTYPE,SLOT,CHANTYPE,SAT,DVCC,POWER,BER,BER_CODE,SBI,T A, CELL1, DISTANCE1, CELL2, DISTANCE2, CELL3, DISTANCE3, LOWER_CTOA, UPPER_CTOA , COCHA_RSSI, MARKER, CHAN_GRP, EVENT, EVINFO, BAND, LISTTYPE, LISTCT, CHAN1, RSS 11, CHAN2, RSS12, CHAN3, RSS13, CHAN4, RSS14, CHAN5, RSS15, CHAN6, RSS16, CHAN7, RS SI7, CHAN8, RSSI8, CHAN9, RSSI9, CHAN10, RSSI10, CHAN11, RSSI11, CHAN12, RSSI12, C HAN13, RSSI13, CHAN14, RSSI14, CHAN15, RSSI15, CHAN16, RSSI16, CHAN17, RSSI17, CH AN18, RSSI18, CHAN19, RSSI19, CHAN20, RSSI20, CHAN21, RSSI21, CHAN22, RSSI22, CHA N23, RSSI23, CHAN24, RSSI24, CHAN25, RSSI25, REVISION 7/30/99,11:08:27,-82.3321883,27.9813839,9,40.3,86.9,G8,5,Conversation,1218,-93,D,3,V,3,5,2,0.87,3,0,0,.....14,15,-100,0,8,.,1,Neig,9,1284,-89,1302,-93,1300,-103,1255,-107,1317,-109,1303,-109,1314,-111,1305,-111,1315,-7/30/99,10:52:47,-82.3321883,27.9813839,9,40.3,86.9,G8,5,Conversation,1218,-93.D.3.V.3.5.2.0.84.3.0.0.....14.15.-100.0.8...1.Neig.9.1284.-89,1302,-93,1300,-103,1303,-107,1255,-109,1314,-111,1317,-111,1305,-111,1315,-7/30/99,10:52:48,-82.3319553,27.9813947,10,43.1,87.0,G8,5,Conversation,1218,-93,D,3,V,3,5,2,0.84,3,0,0,...,-10,38,-137,0,8,,,1,Neig,9,1284,-89,1302,-93,1300,-103,1303,-107,1255,-109,1314,-111,1317,-111,1305,-111,1315,-7/30/99,10:52:48,-82.3319553,27.9813947,10,43.1,87.0,G8,5,Conversation,1218,-95.D.3.V.3.5.2.0.99.3.0.0.....-10.38.-137.0.8...1.Neig.9.1284.-83,1302,-93,1300,-101,1303,-105,1255,-109,1305,-111,1314,-113,1315,-113,1317,-7/30/99,10:52:49,-82.3317164,27.9814044,10,44.7,87.2,G8,5,Conversation,1218,-95,D,3,V,3,5,2,0.99,3,0,0,...,-10,38,-137,0,8,,,1,Neig,9,1284,-83,1302,-93,1300,-101,1303,-105,1255,-109,1305,-111,1314,-113,1315,-113,1317,-

R, RBER, FER, BQ, TD, FREQ, TIME, MS, PRINT DEV, FVC, RVC, TDRVC, FVC, RVC, RVC, RVC, RVC, RVC, ERR, ALIG

28.0069725,9412580201,T017C,MDVC-15,0,1,0,2,0 28.0069725,9412580201,T017C,MDVC-15,0,1,0,2,0 28.0069856,9412580201,T017C,MDVC-15,0,2,0,2,1 28.0069856,9412580201,T017C,MDVC-15,0,2,0,2,1 28.0070392,9412580201,T005B,MDVC-2,0,4,0,2,1 28.0072014,9412580201,T005B,MDVC-7,0,4,0,2,1 28.0072014,9412580201,T005B,MDVC-7,0,4,0,2,1 28.0073900,9412580201,T005B,MDVC-8,0,3,0,2,1 28.0073900,9412580201,T005B,MDVC-8,0,3,0,2,1 28.0075761,9412580201,T005B,MDVC-7,0,5,0,2,1 28.0075761,9412580201,T005B,MDVC-7,0,5,0,2,1 592,9412580201,T005B

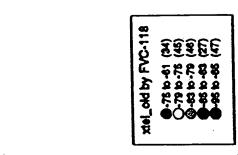


FIG. 12

Comarco File

 Time,Long,Lat,CellNo,SS, 12:41:29,28.6559300,-81.205792000,1353,-124 12:41:29,28.6559300,-81.205792000,201,-106 12:41:29,28.6559300,-81.205792000,32,-106 12:41:29,28.6559300,-81.205792000,321,-76 12:41:29,28.6559300,-81.205792000,323,-66 12:41:29,28.6559300,-81.205792000,831,-100 12:41:30,28.6559260,-81.205580000,323,-66 12:41:31,28.6559170,-81.205380000,321,-75 12:41:31,28.6559170,-81.205380000,321,-75 12:41:31,28.6559170,-81.205380000,323,-64 12:41:32,28.6559080,-81.205198000,323,-63 12:41:33,28.6558950,-81.204922000,321,-73 12:41:33,28.6558950,-81.204922000,323,-62 12:41:34,28.6558900,-81.204769000,321,-73 12:41:34,28.6558900,-81.204769000,321,-73 12:41:34,28.6558900,-81.204769000,322,-98 12:41:34,28.6558900,-81.204769000,323,-61 12:41:35,28.6558900,-81.204577000,1353,-124 12:41:35,28.6558900,-81.204577000,201,-105 12:41:35,28.6558900,-81.204577000,202,-106 12:41:35,28.6558900,-81.204577000,32,-105 12:41:35,28.6558900,-81.204577000,323,-63 12:41:35,28.6558900,-81.204577000,831,-99 12:41:37,28.6558970,-81.204219000,321,-73 12:41:37,28.6558970,-81.204219000,323,-67 12:41:38,28.6559000,-81.204044000,321,-74 12:41:38,28.6559000,-81.204044000,323,-67 12:41:38,28.6559000,-81.204044000,321,-74 12:41:38,28.6559000,-81.204044000,323,-67 12:41:40,28.6559020,-81.203683000,1353,-122 12:41:40,28.6559020,-81.203683000,202,-104 12:41:40,28.6559020,-81.203683000,32,-105 12:41:40,28.6559020,-81.203683000,321,-73 12:41:40,28.6559020,-81.203683000,322,-96 12:41:40,28.6559020,-81.203683000,323,-67 12:41:41,28.6559070,-81.203457000,321,-72 12:41:41,28.6559070,-81.203457000,323,-66 12:41:42,28.6559100,-81.203125000,321,-71 12:41:42,28.6559100,-81.203125000,323,-66

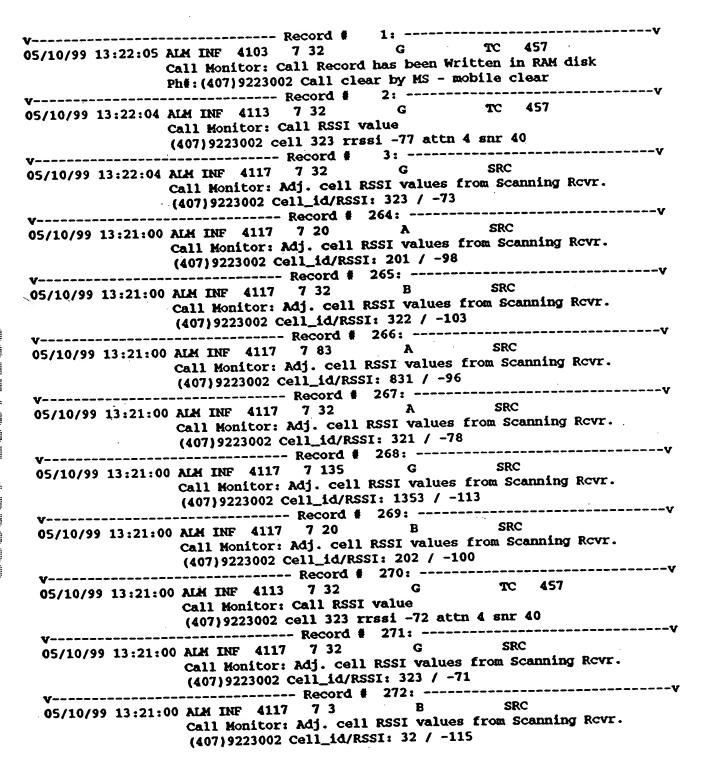


FIG. 15

tra0528_out by SS

O -45 to -66 (600)

-42 to -65 (534)

-46 to -42 (465)

-105 to -46 (540)

-116 to -106 (482)

-127 to -116 (565)